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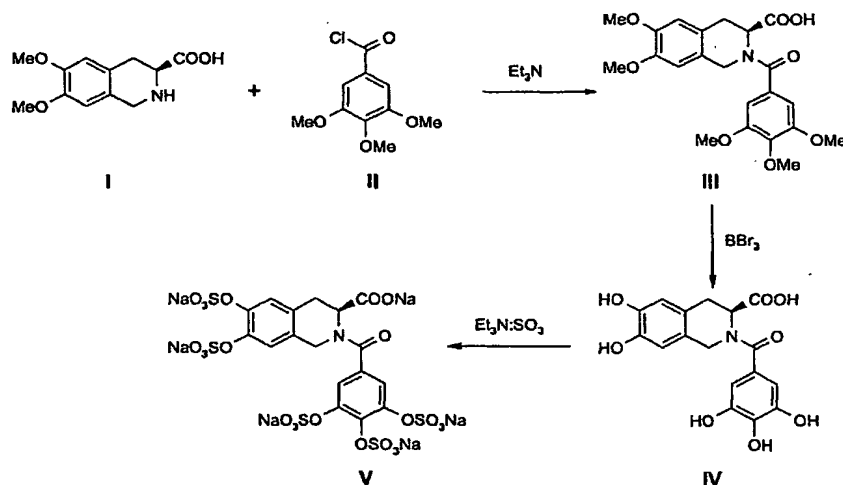
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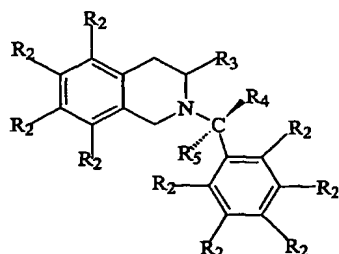
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(54) Title: SULFATED BIS-CYCLIC AGENTS



(57) Abstract: Sulfated bis-cyclic compounds that are potent anticoagulants and methods for their manufacture are provided. The sulfated compounds are bis-cyclic moieties comprised of an isoquinoline ring joined to a phenyl ring with the general chemical structure formula (I) where  $R_2$  is hydrogen or a sulfate moiety,  $R_3$  is either hydrogen or carboxylate moiety;  $R_4$  is a hydrogen or oxygen; and  $R_5$  is a hydrogen if  $R_4$  is a hydrogen, and is absent if  $R_4$  is oxygen. Counterions such as sodium may also be coordinated to the sulfate and carboxylate moieties.



(I)



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